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EXAMINER

SWERDLOW, DANIEL

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

08/777,958

Applicant(s)

HAMILTON ET AL.

Examiner

Daniel Swerdlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's arguments, see pages 4 through 17 of appeal brief, filed 30 October 2003, with respect to the rejection(s) of claim(s) 1 through 10 under 35 USC 102 and 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of the previously cited Bazooka and Ziffer (Ziffer (March)) references as well as a new Ziffer reference (Ziffer (May)) and the first and second paragraphs of 35 U.S.C. 112.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2, 3 and 7 through 10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an audio speaker system according to Claim 1 wherein the speaker is disposed in the rearward section of the trunk, does not reasonably provide enablement for the speaker occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with said one speaker mounted in the rear deck. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. Specifically, the inventions of Claims 2 and 7 require a low frequency speaker of sufficiently small size and regular shape to occupy negligible space by fitting into a rear trunk corner as depicted in applicant's Figures 1, 2 and 6. This requires a low frequency speaker the

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approximate size and shape of a standard brick. At the time of the invention, low frequency speakers of this size and shape were not known to those of ordinary skill in the art. Evidence of this is found in Ziffer (March). In the paragraph spanning the third and fourth columns of page 48, a professional car audio installer is quoted indicating that the Bazooka bass tubes were the most compact bass speakers available at the time of the invention. In the appeal brief filed on 30 October 2003, applicant states: "it is impossible to put these large Bazooka bass speakers in the rear trunk corner at the rear of the vehicle". As such, applicant admits that the most compact bass speaker known to one of ordinary skill in the art at the time of the invention could not be employed as claimed. Applicant's disclosure provides no information on how to produce a low frequency speaker of the size and shape necessary to be employed as claimed. Claims 3 and 8 through 10 depend from Claims 2 or 7. As such, the claims are not enabled. In addition, Claims 3 and 8 require rear corner mounting and so claim a compactness of the speaker beyond what is required by Claims 2 and 7. Therefore the failure of enablement is greater for these claims. In order to advance prosecution to the maximum possible extent, examiner presents below prior art rejections for Claims 2 and 7 and claims depending therefrom based on the interpretation that either (1) the invention comprehends a vehicle with sufficient space between the interior trunk trim and the vehicle outer shell to contain a bass speaker or (2) applicant's disclosure admits that the occupying of negligible useful trunk volume and the smaller decrease in calculated useful trunk volume is inherent in the rear corner mounting.

4. Claims 5 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in

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the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 5 and 10 claim the vehicle is "constructed and arranged to be free of an undesirable peak in the rear seat frequency response ... between 80-100 Hz and ... an undesirable hole between 60-80 Hz in the front seat frequency response". However, the specification does not provide guidance on how to construct such a vehicle. Audio speaker systems and vehicles are different. One skilled in the audio speaker system art would not be skilled in vehicle construction. As such, one skilled in the audio speaker system art would not, at the time of the invention, be enabled to construct a vehicle as claimed. In order to advance prosecution to the maximum possible extent, examiner presents below prior art rejections for Claims 2 and 7 and claims depending therefrom based on the interpretation that freedom from the undesirable frequency hole and peak claimed is inherent in a trunk mounted bass speaker when there are no holes in the rear deck.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 3 and 7 through 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 2 and 7 recite the limitation "said one speaker mounted in said rear deck". There is insufficient antecedent basis for this limitation in the claim. Claim 1, from which Claim 2 depends and the antecedent portion of Claim 2 recite the limitation "at least one speaker", which encompasses one or a plurality of speakers. As such, it is unclear whether "said one speaker"

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refers to all speakers in a plurality, one speaker in a plurality or a single speaker that is not part of a plurality. For the purpose of this Office action, examiner assumes the recitation "said one speaker" is intended as "said at least one speaker".

8. Claims 2 and 3 claim a speaker system "wherein said at least one speaker is disposed in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with said [at least] one speaker mounted in said rear deck." Applicant states in the disclosure that the "reference to negligible useful trunk volume means that the [speaker] enclosure portion in the useful trunk volume is a small percentage of the useful trunk volume" (page 3, lines 8-10). As is clear from applicant's Fig. 6, the amount of useful trunk volume occupied by the speaker depends on the size and shape of the vehicle trunk. Applicant has depicted a large trunk with significant volume between the vehicle shell and the cosmetic trim resulting in only a small part of the speaker occupying useful volume. In a vehicle with a smaller trunk and less volume between the vehicle shell and the cosmetic trim, a larger portion of the speaker would occupy useful volume. Applicant claims the invention as a speaker system. As such, the limitations of the claimed invention cannot be made clear by reference to a vehicle of uncertain configuration. The claim could read on a particular speaker system when it is installed in one vehicle, but not on the same speaker system installed in a different vehicle. Similarly, whether a speaker disposed in a rearward section of the trunk would "cause a smaller decrease in calculated trunk volume than would occur with said one speaker mounted in said rear deck" depends on the configuration of the vehicle. Since the configuration of the vehicle is not defined beyond a general recitation of vehicle elements (i.e., passenger compartment, spare tire compartment, trunk, trunk floor, dividing portion and rear

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deck), the claim is indefinite. In order to advance prosecution to the maximum possible extent, examiner presents below prior art rejections for Claims 2 and 7 and claims depending therefrom based on the interpretation that either (1) the invention comprehends a vehicle with sufficient space between the interior trunk trim and the vehicle outer shell to contain a bass speaker or (2) applicant's disclosure admits that the occupying of negligible useful trunk volume and the smaller decrease in calculated useful trunk volume is inherent in the rear corner mounting. This second interpretation is further supported by the fact that the indefinite claims do not limit the rear deck mounting orientation and position of the speaker(s) that serve as a basis for comparison for the claimed configuration. As such, the prior art rear corner mounting configuration need only be more space efficient than the least space efficient possible rear shelf mounting of the same speaker(s) (e.g., extending rearward along the center line of the car) to meet the claim.

9. Claim 3 is indefinite due to dependence on Claim 2.

10. Claims 8 through 10 are indefinite due to dependence from Claim 7.

### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1 through 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Ziffer (May) (Car Audio and Electronics, May 1991).

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13. Claim 1 claims an audio speaker system for a vehicle. Ziffer (May) discloses a “full-blown sound system” (page 39, 2<sup>nd</sup> paragraph) including tweeters and woofers (i.e., an audio speaker system) (page 41, photos) for a white 1990 Mazda Protégé (i.e., a vehicle) (page 39, 2<sup>nd</sup> paragraph). As is visible in the lower photograph on page 40, the vehicle disclosed has a passenger compartment (visible through the rear window seen between the raised trunk lid and the rear trunk lip), a spare tire compartment (visible around the spare tire), a trunk (page 40, photo caption) with a trunk floor (page 40, 1<sup>st</sup> column, 1<sup>st</sup> full paragraph), a dividing portion (visible in a closed position in upper photograph on page 40 and in an open position in the lower photograph on page 40) and a rear deck (page 42, lower photograph and associated caption) with the dividing portion and rear deck separating the trunk from the passenger compartment. Ziffer (May) further discloses the woofers (i.e., at least one low frequency speaker) disposed within the trunk of the vehicle (page 40, paragraph spanning 3<sup>rd</sup> and 4<sup>th</sup> columns and 2<sup>nd</sup> complete paragraph in 4<sup>th</sup> column) at the trunk rear in a location spaced from the passenger compartment by the portion of the trunk extending to the front of the vehicle (top photograph on page 41 shows the portion of the trunk extending to the front of the vehicle to the right of the woofer grille). The woofers disclosed by Ziffer (May) are clear of the rear deck (lower photograph on page 41 shows clearance between woofers and rear deck), above the trunk floor (top photograph on page 41 shows the disposition of the woofer above the trunk floor) and outside the spare tire compartment (lower photograph on page 40 shows woofers outside the spare tire compartment).

14. Regarding Claim 2, Ziffer (May) further discloses woofers disposed in a rearward section of the trunk (top photograph on page 41 shows the portion of the trunk extending to the front of the vehicle to the right of the woofer grille) and flush mounted in the trunk walls (i.e., occupying



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no useful trunk volume) (page 40, lower photograph) and hence causing a smaller decrease in calculated trunk volume than would occur with the speakers mounted in the rear deck.

15. Regarding Claim 3, Ziffer (May) further discloses woofers disposed in a rear trunk corners (page 40, both photographs).

16. Regarding Claim 4, Ziffer (May) further discloses creation of woofer enclosures with fiberglass back walls built to conform to the shape of the car (page 40, paragraph spanning 3<sup>rd</sup> and 4<sup>th</sup> columns).

17. Claims 1 and 4 through 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ziffer (March) (Car Audio and Electronics, March 1991). These rejections rely on the embodiment depicted in the bottom photograph on page 48 in Ziffer (March) showing the bass tubes placed some distance rearward of the trunk front wall.

18. Claim 1 claims an audio speaker system for a vehicle. Ziffer (March) discloses bass tubes (i.e., an audio speaker system) (page 48, bottom photo) for a Volvo 740 Turbo (i.e., a vehicle) (page 47, 1<sup>st</sup> paragraph). As is visible in the photograph on page 47, the vehicle disclosed has a passenger compartment (visible through the side windows), a spare tire compartment (page 48, top photo shows gap in carpet between spare tire compartment lid and trunk floor), a trunk (page 48, top photo caption) with a trunk floor (page 48, top photo), a trunk front wall (i.e., dividing portion) (page 48, last paragraph) and a rear shelf (i.e., rear deck) (while not clearly depicted or described in Ziffer (March), evidence of the inherency of a rear shelf in a 1990 Volvo 740 Turbo sedan is found in Justin: "There was no factory rear shelf speaker in this car, so I had to saw out holes in the back"), with the dividing portion and rear shelf separating

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the trunk from the passenger compartment. Ziffer (March) further discloses the bass tubes (i.e., at least one low frequency speaker) disposed within the trunk of the vehicle (page 48, lowest photograph) at the trunk rear in a location spaced from the passenger compartment by the portion of the trunk extending to the front of the vehicle (i.e., toward the upper right corner of the photograph). The bass tubes disclosed by Ziffer (March) are clear of the rear deck, above the trunk floor and outside the spare tire compartment (bottom photograph on page 48).

19. Regarding Claim 4, Ziffer (March) further discloses bass tube enclosures (page 48, top photo).

20. Regarding Claim 5, applicant discloses that the front seat frequency response hole and rear seat frequency response peak are the result of using deck-mounted speakers (page 3, lines 13-25). As shown below apropos of Claim 6, the vehicle disclosed in Ziffer (March) does not use deck mounted speakers or have rear deck speaker holes. As such, it is inherently characterized by freedom from the undesirable front seat frequency response hole and rear seat frequency response peak.

21. Regarding Claim 6, the rear shelf (i.e., rear deck) of the 1990 Volvo 740 Turbo sedan has no speaker holes in the rear deck. Evidence of the rear shelf without speaker holes in a 1990 Volvo 740 Turbo sedan is found in Justin: "There was no factory rear shelf speaker in this car, so I had to saw out holes in the back." Ziffer (March) further discloses that a design consideration was to not cut holes in the vehicle (page 48, paragraph spanning 3<sup>rd</sup> and 4<sup>th</sup> columns) and that the vehicle was purchased without a factory sound system (paragraph spanning pages 47 and 48). The Ziffer article is directed to a complete description of the vehicle sound system and makes no

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mention of rear shelf speakers or rear shelf speaker holes. As such, it is clear that the rear deck in the vehicle disclosed in Ziffer (March) is free of speaker holes.

***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 2 through 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziffer (May) in view of Bazooka.

24. Regarding Claim 2, as stated above apropos of Claim 1, Ziffer (May) anticipates all elements of that claim. Therefore Ziffer (May) is shown to anticipate all elements of Claim 2 except the at least one speaker being disposed in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with said [at least] one speaker mounted in said rear deck. Bazooka discloses a woofer configuration (third example) for use in a vehicle similar to the one disclosed in Ziffer (May) in which the woofers are disposed adjacent to and parallel to the sides of the trunk and "directed to the rearmost corner of the trunk". Further, it is clear from the first and second example of Bazooka that the woofer is intended to be disposed "3-4 inches from the wall the woofer is facing" (i.e., the rear of the trunk). As such, Bazooka discloses the woofer disposed in a rearward section of trunk. The disposition adjacent and parallel to the side of the trunk and 3-4 inches the rear of the trunk places the woofer in a rear trunk corner of the vehicle. It would have

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been obvious to one skilled in the art at the time of the invention to apply the woofer configuration taught by Bazooka to the vehicle sound system taught by Ziffer (May) for the purpose of reducing installation time, effort and cost by utilizing a ready-made subwoofer instead of fabricating one from raw materials. Applicant states in the disclosure that "placement of the speaker enclosure is preferably in a corner of the vehicle trunk occupying negligible useful trunk volume" (page 2, lines 17-20) and "because of the way auto manufacturers calculate useful trunk volume, the enclosure in the corner of the trunk results in a smaller decrease in calculated useful trunk volume than do speakers mounted in the rear deck" (page 2, lines 27-31). As such, applicant admits that the occupying of negligible useful trunk volume and the smaller decrease in calculated useful trunk volume is inherent in the rear corner mounting. As such, the combination of Ziffer (May) and Bazooka makes obvious all elements of Claim 2.

25. Regarding Claim 3, as shown above apropos of Claim 2, the combination of Ziffer (May) and Bazooka makes obvious the speaker located in a rear trunk corner at the rear of the vehicle.

26. Regarding Claim 4, Bazooka further discloses the woofers mounted in enclosures (top and bottom illustrations).

27. Claims 1 through 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziffer (March) in view of Bazooka. These rejections rely on the embodiment depicted in the top photograph on page 48 in Ziffer (March) showing the bass tubes placed near the trunk front wall.

28. Claim 1 claims an audio speaker system for a vehicle. Ziffer (March) discloses bass tubes (i.e., an audio speaker system) (page 48, top photo) for a Volvo 740 Turbo (i.e., a vehicle) (page 47, 1<sup>st</sup> paragraph). As is visible in the photograph on page 47, the vehicle disclosed has a

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passenger compartment (visible through the side windows), a spare tire compartment (page 48, top photo shows gap in carpet between spare tire compartment lid and trunk floor), a trunk (page 48, top photo caption) with a trunk floor (page 48, top photo), a trunk front wall (i.e., dividing portion) (page 48, last paragraph) and a rear shelf (i.e., rear deck) (while not clearly depicted or described in Ziffer (March), evidence of the inherency of a rear shelf in a 1990 Volvo 740 Turbo sedan is found in Justin: "There was no factory rear shelf speaker in this car, so I had to saw out holes in the back"), with the dividing portion and rear shelf separating the trunk from the passenger compartment. Ziffer (March) further discloses the bass tubes (i.e., at least one low frequency speaker) disposed within the trunk of the vehicle (page 48, top photograph). The bass tubes disclosed by Ziffer (March) are above the trunk floor and outside the spare tire compartment (top photograph on page 48). Therefore Ziffer (March) is shown to anticipate all elements of Claim 1 except the speaker(s) disposed at the trunk rear in a location spaced from the passenger compartment by the portion of the trunk extending to the front of the vehicle such that the speaker(s) is/are clear of the rear deck. Bazooka discloses a woofer configuration (third example) for use in a vehicle similar to the one disclosed in Ziffer (March) in which the woofers are disposed adjacent to and parallel to the sides of the trunk and "directed to the rearmost corner of the trunk". Further, it is clear from the first and second example of Bazooka that the woofer is intended to be disposed "3-4 inches from the wall the woofer is facing" (i.e., the rear of the trunk). As such, Bazooka discloses the woofer disposed in a rearward section of the trunk. The disposition adjacent and parallel to the side of the trunk and 3-4 inches the rear of the trunk places the woofer in a rear trunk corner of the vehicle (i.e., at the trunk rear in a location spaced from the passenger compartment by the portion of the trunk extending to the front of the vehicle

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such that the speaker(s) is/are clear of the rear deck). The Bazooka reference is produced by the manufacturer of the bass tubes disclosed in Ziffer (March) and represents rear corner mounting as the preferred configuration for a sedan. It would have been obvious to one skilled in the art at the time of the invention to apply the woofer configuration taught by Bazooka to the vehicle sound system taught by Ziffer (March) for the purpose of ensuring proper function of the bass tube by installing according to the manufacturer's recommendation.

29. Regarding Claim 2, as stated above apropos of Claim 1, the combination of Ziffer (March) and Bazooka makes obvious all elements of that claim. Therefore the combination is shown to make obvious all elements of Claim 2 except the at least one speaker being disposed in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with said [at least] one speaker mounted in said rear deck. As shown above apropos of Claim 1, the combination makes obvious rear corner mounting of the bass tubes. Applicant states in the disclosure that "placement of the speaker enclosure is preferably in a corner of the vehicle trunk occupying negligible useful trunk volume" (page 2, lines 17-20) and "because of the way auto manufacturers calculate useful trunk volume, the enclosure in the corner of the trunk results in a smaller decrease in calculated useful trunk volume than do speakers mounted in the rear deck" (page 2, lines 27-31). As such, applicant admits that the occupying of negligible useful trunk volume and the smaller decrease in calculated useful trunk volume is inherent in the rear corner mounting. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 2.

30. Regarding Claim 3, as stated above apropos of Claim 2, the combination of Ziffer (March) and Bazooka makes obvious all elements of that claim. Further, as shown above

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apropos of Claim 1, the combination makes obvious rear corner mounting of the bass tubes. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 3.

31. Regarding Claim 4, Bazooka further discloses the woofers mounted in enclosures (top and bottom illustrations).

32. Regarding Claim 5, applicant discloses that the front seat frequency response hole and rear seat frequency response peak are the result of using deck-mounted speakers (page 3, lines 13-25). As shown below apropos of Claim 6, the vehicle disclosed in Ziffer (March) does not use deck mounted speakers and does not have rear deck speaker holes. Therefore, it is inherently characterized by freedom from the undesirable front seat frequency response hole and rear seat frequency response peak. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 5.

33. Regarding Claim 6, the rear shelf (i.e., rear deck) of the 1990 Volvo 740 Turbo sedan has no speaker holes in the rear deck. Evidence of the rear shelf without speaker holes in a 1990 Volvo 740 Turbo sedan is found in Justin: "There was no factory rear shelf speaker in this car, so I had to saw out holes in the back." Ziffer (March) further discloses that a design consideration was to not cut holes in the vehicle (page 48, paragraph spanning 3<sup>rd</sup> and 4<sup>th</sup> columns) and that the vehicle was purchased without a factory sound system (paragraph spanning pages 47 and 48). The Ziffer article is directed to a complete description of the vehicle sound system and makes no mention of rear shelf speakers or rear shelf speaker holes. Therefore, it is clear that the rear deck in the vehicle disclosed in Ziffer (March) is free of speaker holes. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 6.

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34. Regarding Claim 7, as stated above apropos of Claim 6, the combination of Ziffer (March) and Bazooka makes obvious all elements of that claim. Therefore the combination is shown to make obvious all elements of Claim 7 except the at least one speaker being disposed in a rearward section of the trunk occupying negligible useful trunk volume to cause a smaller decrease in calculated trunk volume than would occur with said [at least] one speaker mounted in said rear deck. As shown above apropos of Claim 1, the combination makes obvious rear corner mounting of the bass tubes. Applicant states in the disclosure that "placement of the speaker enclosure is preferably in a corner of the vehicle trunk occupying negligible useful trunk volume" (page 2, lines 17-20) and "because of the way auto manufacturers calculate useful trunk volume, the enclosure in the corner of the trunk results in a smaller decrease in calculated useful trunk volume than do speakers mounted in the rear deck" (page 2, lines 27-31). As such, applicant admits that the occupying of negligible useful trunk volume and the smaller decrease in calculated useful trunk volume is inherent in the rear corner mounting. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 7.

35. Regarding Claim 8, as stated above apropos of Claim 7, the combination of Ziffer (March) and Bazooka makes obvious all elements of that claim. Further, as shown above apropos of Claim 1, the combination makes obvious rear corner mounting of the bass tubes. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 8.

36. Regarding Claim 9, Bazooka further discloses the woofers mounted in enclosures (top and bottom illustrations).

37. Regarding Claim 10, applicant discloses that the front seat frequency response hole and rear seat frequency response peak are the result of using deck-mounted speakers (page 3, lines



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13-25). As shown above apropos of Claim 6, the vehicle disclosed in Ziffer (March) does not use deck mounted speakers or have rear deck speaker holes. Therefore, it is inherently characterized by freedom from the undesirable front seat frequency response hole and rear seat frequency response peak. As such, the combination of Ziffer (March) and Bazooka makes obvious all elements of Claim 10.

### *Response to Arguments*

38. Applicant's arguments with respect to all claims have been considered but are moot in view of the new grounds of rejection. While the grounds of rejection in some cases rely upon the same references as the previous grounds, they are applied sufficiently differently to constitute new grounds. As such, this Office action is non-final. In order to advance prosecution, for those claims rejected using exactly the same reference or combination of references as were applied to those claims in the final rejection mailed on 24 March 2003, examiner responds below to the arguments presented in the appeal brief filed on 30 October 2003.

39. Regarding rejections of Claims 1 and 4 through 6 as anticipated by Ziffer (March), applicant argued that Ziffer (March) "fails to disclose the low frequency speaker disposed within the trunk of the vehicle at the trunk rear in a location spaced from the passenger compartment by the portion of the trunk extending to the front of the vehicle". The photograph at the bottom of page 48 in Ziffer (March) clearly shows the bass tubes disposed within in the trunk of the vehicle. Further, there is a portion of the trunk that separates (i.e., spaces) the bass tubes from the passenger compartment. This portion of the trunk lies between the bass tubes and the upper right corner of the photograph and clearly extends to the front of the vehicle. Finally, the point

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of division between the trunk front and the trunk rear is arbitrary. In this case, the trunk rear is seen to begin at approximately 8 inches behind the passenger compartment where the trunk floor drops above the spare tire compartment. Since the level of the trunk floor remains at this lowered height to the back of the car, the drop is a natural demarcation point between the trunk front and the trunk rear.

40. Regarding rejections of Claims 3 and 8 as obvious over Ziffer (March) in view of Bazooka, applicant argued that motivation was not shown for combination of the references. In the rejection above, examiner has provided motivation by showing that an authoritative source of information about the bass tubes (i.e., their manufacturer) recommended an installation configuration. One skilled in the art would have been motivated to follow the manufacturer's recommendation to ensure correct functioning of the bass tube.

41. Applicant has argued that examiner improperly made a rejection based on a conclusion of design choice. The rejection above does not rely on a conclusion of design choice.

42. Applicant has argued that "it is impossible to put these large Bazooka bass speakers in the rear trunk corner at the rear of the vehicle". Examiner disagrees. The dimensions of the bass tube are 18 inches long and 8 inches in diameter. The photograph at the top of page 48 in Ziffer (March) shows two bass tubes end to end fitting between the wheel wells of a sedan with room to spare. This evidence contradicts applicant's allegation regarding the size of the bass tubes.

43. In response to applicant's comments regarding the Bazooka reference, a new copy of page 41 of the January 1990 edition of Car Audio and Electronics Magazine is provided. To improve intelligibility, the copy has been reversed to appear as dark lines on a light background.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**FORESTER W. ISEN**  
**SUPERVISORY PATENT EXAMINER**